

CLAIMS

What is claimed is:

1. A system for measuring media content consumption within a home network, comprising:

media content having associated metadata;

a meter; and

a transcoder for transcoding the metadata associated with the media content into a format useable by the meter.

- 2. The content consumption measurement system of claim 1, further comprising a content consumption device, wherein the meter is associated with the content consumption device.
- 3. The content consumption measurement system of claim 1, further comprising a server, wherein the meter is associated with the server.
- 4. The content consumption measurement system of claim 1, further comprising a media database, wherein the meter is associated with the media database.
- 5. The content consumption measurement system of claim 1, comprising a content consumption device wherein the transcoder receives the media content having the associated metadata from the content consumption device.



- 6. The content consumption measurement system of claim 1, wherein the transcoder transcodes both the media content and the associated metadata.
- 7. The content consumption measurement system of claim 1, wherein the transcoder only transcodes the metadata associated with the media content.
- 8. The content consumption measurement system of claim 1, wherein the meter has an audio sensor and the transcoder transcodes the metadata for use with the audio sensor.
- 9. The content consumption measurement system of claim 1, wherein the meter has a video sensor and the transcoder transcodes the metadata for use with the video sensor.
- 10. The content consumption measurement system of claim 1, wherein the meter has a digital bitstream sensor and the transcoder transcodes the metadata for use with the digital bitstream sensor.
- 11. The content consumption measurement system of claim 1, wherein the meter has a software sensor and the transcoder transcodes the metadata for use with the software sensor.



- 12. The content consumption measurement system of claim 1, wherein the meter has a database sensor and the transcoder transcodes the metadata for use with the database sensor.
- 13. The content consumption measurement system of claim 1, wherein the transcoder includes a watermark codec.
- 14. The content consumption measurement system of claim 1, wherein the transcoder inserts a code into the media content.
- 15. The content consumption measurement system of claim 14, wherein the transcoder inserts an audio code.
- 16. The content consumption measurement system of claim 14, wherein the transcoder inserts a video code.
- 17. The content consumption measurement system of claim 2, wherein the transcoder, the content consumption device and the meter are part of a home network.
- 18. The content consumption measurement system of claim 17, wherein the home network is wireless.



- 19. The content consumption measurement system of claim 17, wherein the home network is wired.
- 20. The content consumption measurement system of claim 17, further comprising a server and a database as part of the home network.
- 21. The content consumption measurement system of claim 17, further comprising a measurement collection unit to which the meter sends data.
- 22. The content consumption measurement system of claim 2, wherein the transcoder is integral with the content consumption device.
- 23. The content consumption measurement system of claim 2, wherein the meter is integral with the content consumption device.
- 24. The content consumption measurement system of claim 1, wherein the transcoder selects specific metadata to transcode.
- 25. The content consumption measurement system of claim 1, wherein the transcoder transcodes multiple types of formats.



- 26. The content consumption measurement system of claim 1, wherein the transcoder transcodes the media content from a high bit rate format to a low bit rate format.
- 27. The content consumption measurement system of claim 1, wherein the transcoder transcodes the media content from a high bit resolution format to a low bit resolution format.
- 28. The content consumption measurement system of claim 1, wherein the metadata provides content information.
- 29. The content consumption measurement system of claim 1, wherein the metadata provides signal information.
- 30. The content consumption measurement system of claim 1, further comprising a plurality of content consumption devices, wherein the meter meters all of the content consumption devices in the system.
- 31. The content consumption measurement system of claim 1, further comprising a plurality of content consumption devices and a plurality of meters, wherein each meter meters a single content consumption device.



- 32. The content consumption measurement system of claim 1, further comprising a plurality of content consumption devices and a plurality of meters, wherein at least one meter meters a single content consumption device and at least one meter meters at least two content consumption devices.
- 33. The content consumption measurement system of claim 2, wherein the content consumption device is a personal video recorder.
- 34. The content consumption measurement system of claim 33, wherein the personal video recorder can present content in JPEG format.
- 35. The content consumption measurement system of claim 33, wherein the personal video recorder can present content in MP3 format.
- 36. A method for measuring media content consumption within a home network, comprising:

providing media content having associated metadata;

providing a meter; and

transcoding the metadata associated with the media content into a format useable by the meter.

37. The content consumption measurement method of claim 36, further comprising:



the meter capturing metadata formatted by the transcoder; and sending the captured metadata to a measurement collection unit.

38. The content consumption measurement method of claim 36, further comprising:

providing a content consumption device; and

transferring the media content and associated metadata from the content consumption device to the transcoder.

- 39. The content consumption measurement method of claim 36, wherein the transcoder transcodes both the media content and the associated metadata.
- 40. The content consumption measurement method of claim 36, wherein the transcoder only transcodes the metadata associated with the media content.
- 41. The content consumption measurement method of claim 36, wherein the transcoder transcodes the metadata for use with an audio sensor.
- 42. The content consumption measurement system of claim 36, wherein the transcoder transcodes the metadata for use with a video sensor.
- 43. The content consumption measurement method of claim 36, wherein the transcoder transcodes the metadata for use with a digital bitstream sensor.



- 44. The content consumption measurement method of claim 36, wherein the transcoder transcodes the metadata for use with a software sensor.
- 45. The content consumption measurement method of claim 36, wherein the transcoder transcodes the metadata for use with a database sensor.
- 46. The content consumption measurement method of claim 36, further comprising inserting a code into the media content.
- 47. The content consumption measurement method of claim 46, wherein the transcoder inserts an audio code.
- 48. The content consumption measurement method of claim 46, wherein the transcoder inserts a video code.
- 49. The content consumption measurement method of claim 36, wherein the transcoder selects specific metadata to transcode.
- 50. The content consumption measurement method of claim 36, wherein the transcoder transcodes multiple types of formats.



- 51. The content consumption measurement method of claim 36, wherein the transcoder transcodes the media content from a high bit rate format to a low bit rate format.
- 52. The content consumption measurement method of claim 36, wherein the transcoder transcodes the media content from a high bit resolution format to a low bit resolution format.
- 53. A transcoder for transcoding metadata associated with media content into a format useable by a meter, comprising:

a memory having instructions stored thereon to determine a metadata format required by the meter and to transcode the metadata associated with the media content into a format useable by the meter; and

a processor for executing the stored instructions.

- 54. The transcoder of claim 53, wherein the transcoder transcodes both the media content and the associated metadata.
- 55. The transcoder of claim 53, wherein the transcoder only transcodes the metadata associated with the media content.
- 56. The transcoder of claim 53, wherein the transcoder transcodes the metadata for use with an audio sensor.

- 57. The transcoder of claim 53, wherein the transcoder transcodes the metadata for use with a video sensor.
- 58. The transcoder of claim 53, wherein the transcoder transcodes the metadata for use with a digital bitstream sensor.
- 59. The transcoder of claim 53, wherein the transcoder transcodes the metadata for use with a software sensor.
- 60. The transcoder of claim 53, wherein the transcoder transcodes the metadata for use with a database sensor.
 - 61. The transcoder of claim 53, further comprising a watermark codec.
- 62. The transcoder of claim 53, wherein the transcoder inserts a code into the media content.
 - 63. The transcoder of claim 62, wherein the transcoder inserts an audio code.
 - 64. The transcoder of claim 62, wherein the transcoder inserts a video code.
- 65. The transcoder of claim 53, wherein the transcoder is integral with a content consumption device.



The transcoder of claim 53, wherein the transcoder selects specific 66. metadata to transcode.

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- The transcoder of claim 53, wherein the transcoder transcodes multiple 67. types of formats.
- The transcoder of claim 53, wherein the transcoder transcodes the media 68. content from a high bit rate format to a low bit rate format.
- 69. The transcoder of claim 53, wherein the transcoder transcodes the media content from a high bit resolution format to a low bit resolution format.
- A meter for measuring media content consumption within a home 70. network, comprising:
 - a sensor;
 - a home network interface to interface with the home network;
- a memory having instructions stored thereon to control the sensor and capture metadata associated with the media content; and
 - a processor for executing the stored instructions.
 - 71. The meter of claim 70, wherein the sensor is an audio sensor.

- 72. The meter of claim 70, wherein the sensor is a video sensor.
- 73. The meter of claim 70, wherein the sensor is a digital bitstream sensor.
- 74. The meter of claim 70, wherein the sensor is a software sensor.
- 75. The meter of claim 70, wherein the sensor is a database sensor.
- 76. The meter of claim 70, wherein the meter is integral with the content consumption device.
- 77. The meter of claim 70, wherein the meter is configured to meter a plurality of content consumption devices on the home network.
- 78. The meter of claim 70, wherein the meter is configured to only meter a single content consumption device.
- 79. A system for measuring media content consumption within a home network, comprising:

media content having associated metadata;

means for metering; and

means for transcoding the metadata associated with the media content into a format useable by the metering means.



80. A transcoder for transcoding metadata associated with media content into a format useable by a meter, comprising:

means for receiving media content with associated metadata; and
means for transcoding the metadata associated with the media content into a
format useable by the meter.

81. A meter for measuring consumption of media content within a home network, comprising:

means for sensing;

means for interfacing with the home network interface; and

means for capturing metadata associated the media content through the means for sensing.

- 82. A digital bitstream comprising transcoded metadata, wherein a transcoder derives the transcoded metadata from source metadata having data fields, and wherein the transcoded metadata includes at least one data field that is distinct from the source metadata data fields.
- 83. The digital bitstream of claim 82, wherein the at least one data field includes a device identification code associated with the transcoder.
- 84. The digital bitstream of claim 82, wherein the at least one data field includes an indication of the identity of a user of the transcoder.



- 85. The digital bitstream of claim 82, wherein the at least one data field includes an indication of a home network to which the transcoder belongs.
- 86. The digital bitstream of claim 82, wherein the at least one data field includes an indication of the time at which the transcoder transcoded the source metadata to transcoded metadata.
- 87. The digital bitstream of claim 82, wherein the at least one data field includes an indication of the date on which the transcoder transcoded the source metadata to transcoded metadata.
- 88. The digital bitstream of claim 82, wherein the at least one data field includes an indication of the format of the transcoded metadata to which the transcoder transcoded the source metadata.
- 89. The digital bitstream of claim 82, wherein the transcoded metadata is integral with content information.
- 90. The digital bitstream of claim 82, wherein the transcoded metadata is separate from the content information.





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AMENDED CLAIMS

[received by the International Bureau on 19 March 2004 (19.03.04); original claims 1-90 replaced by amended claims 1-112

What is claimed is:

- 1. A method for transcoding a media signal comprising: extracting metadata from the media signal to form extracted metadata; and converting the extracted metadata from a first media format associated with a first media consumption device to a second media format associated with a second media consumption device to form converted media information, wherein the first media consumption device and the second media consumption device are configurable to be communicatively coupled to a network.
- 2. A method as defined in claim 1, further comprising converting media content associated with the media signal from a third media format to a fourth media format to form the converted media information.
- 3. A method as defined in claim 1, wherein converting the extracted metadata from the first media format to the second media format to form the converted media information comprises identifying at least one of the first media format and second media format prior to converting the extracted metadata.
- 4. A method as defined in claim 3, wherein identifying the at least one of the first media format and the second media format comprises identifying a media format detectable by a metering device associated with the second media consumption device.
- 5. A method as defined in claim 4, wherein identifying the media format detectable by the metering device comprises identifying at least one of an audio



watermark sensor, a video watermark sensor, a digital bitstream sensor, a database sensor, and a software sensor associated with the metering device.

6. A method as defined in claim 1, wherein converting the extracted metadata from the first media format to the second media format to form the converted media information comprises:

detecting a watermark associated with the media signal; identifying a signal compression ratio associated with the watermark; and modifying the signal compression ratio based on the second media format.

- 7. A method as defined in claim 6, wherein modifying the signal compression ratio based on the second media format comprises comparing an output bit rate associated with the signal compression ratio to a network bit rate associated with the network.
- 8. A method as defined in claim 6, wherein modifying the signal compression ratio based on the second media format comprises changing an output bit rate based on a network bit rate associated with the network.
- 9. A method as defined in claim 1, wherein converting the extracted metadata from the first media format to the second media format to form the converted media information comprises:

generating a watermark based on the second media format; and inserting the watermark in the converted media information.

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- 10. A method as defined in claim 9 further comprising providing correlation information associated with the watermark and the converted media information to at least one of a data measurement collection device and a data collection facility.
- 11. A method as defined in claim 1, wherein converting the extracted metadata from the first media format to the second media format to form the converted media information comprises:

encoding the extracted metadata in the second media format; and digitally inserting encoded metadata into a bitstream associated with the converted media information.

- 12. A method as defined in claim 1, wherein converting the extracted metadata from the first media format to the second media format to form the converted media information comprises converting the extracted metadata to cause converted media content to be stored in a database.
- 13. A method as defined in claim 1, wherein converting the extracted metadata from the first media format to the second media format to form the converted media information comprises converting the extracted metadata to cause converted metadata to be extracted from the second media consumption device based on an application program interface associated with the second media consumption device.
- 14. A method as defined in claim 1, wherein extracting the metadata from the media signal comprises demultiplexing the media signal.

- 15. A method as defined in claim 1 further comprising generating a converted media signal having the converted media information, wherein the converted media information includes at least one of converted media content and converted metadata associated with the converted media content.
- 16. A method as defined in claim 1 further comprising transmitting a converted media signal having the converted media information to at least one of the second media consumption device and a metering device associated with the second consumption media device, wherein the converted media information includes at least one of converted media content and converted metadata associated with the converted media content.
- 17. A method as defined in claim 1, further comprising monitoring media consumption based on the converted media information.
- 18. A method as defined in claim 1, wherein the metadata comprises at least one of content identification information, source identification information, destination device identification information, distribution channel identification information, timestamps associated with at least one of creation and generation of media content, and information associated with the media signal.
- 19. A method as defined in claim 18, wherein the information associated with the media signal comprises at least one of frequency information, format information, signal strength information, bit rate information, frame rate information, and sampling frequency information.



- 20. A method as defined in claim 1, wherein at least one of the first media consumption device and the second media consumption device is one of a television, a radio, a personal computer, a personal digital assistant, a telephone, a digital video disk player, and a personal video recorder.
- 21. A method as defined in claim 1, wherein the network comprises at least one of a wired network and a wireless network.
- 22. A method as defined in claim 1, wherein the network comprises at least one of a server, a database, and a data measurement collection device.
- 23. A method as defined in claim 1, wherein the network comprises a home network.
 - 24. An apparatus for transcoding a media signal comprising:

a network interface to communicate the media signal between a first media consumption device and a second media consumption device configurable to be communicatively coupled to a network;

an extracting device coupled to the network interface and configured to extract metadata from the media signal to form extracted metadata; and

an encoding device coupled to the network interface and configured to convert the extracted metadata from a first media format associated with the first media consumption device to a second media format associated with the second media consumption device to form converted media information.



- 25. An apparatus as defined in claim 24, wherein the encoding device is configured to convert media content associated with the media signal from a third media format to a fourth media format to form the converted media information.
- 26. An apparatus as defined in claim 24 further comprising an identification device coupled to the network interface and configured to identify at least one of the first media format and the second media format.
- 27. An apparatus as defined in claim 26, wherein the identification device is configured to identify a media format detectable by a metering device associated with the second media consumption device.
- 28. An apparatus as defined in claim 26, wherein the identification device is configured to identify at least one of an audio watermark sensor, a video watermark sensor, a digital bitstream sensor, a database sensor, and a software sensor associated with the metering device.
- 29. An apparatus as defined in claim 26, wherein the identification device is configured to detect a watermark associated with the media signal and to identify a signal compression ratio associated with the watermark, and wherein the encoding device is configured to modify the signal compression ratio based on the second media format.
- 30. An apparatus as defined in claim 29, wherein the encoding device is configured to compare an output bit rate associated with the signal compression ratio to a

rate.

network bit rate of the network and adjust the output bit rate based on the network bit

- 31. An apparatus as defined in claim 26, wherein the identification device and the encoding device are integrated within a single device.
- 32. An apparatus as defined in claim 24 further comprising a watermark generator configured to generate a watermark based on the second media format and insert the watermark in the converted media information.
- 33. An apparatus as defined in claim 32, wherein the watermark generator is configured to provide correlation information associated with the watermark and the converted media information to at least one of a data measurement collection device and a data collection facility.
- 34. An apparatus as defined in claim 24, wherein the encoding device is configured to encode the metadata in the second media format and to digitally insert encoded metadata into a bitstream associated with the converted media information.
- 35. An apparatus as defined in claim 24, wherein the converted media information is configured to cause converted media content to be stored in a database.
- 36. An apparatus as defined in claim 24, wherein the converted media information is configured to cause converted metadata to be extracted from the second



media consumption device based on an application program interface associated with the second media consumption device.

- 37. An apparatus as defined in claim 24, wherein the encoding device is configured to generate a converted media signal having the converted media information, and wherein the converted media information includes at least one of converted media content and converted metadata associated with the converted media content.
- 38. An apparatus as defined in claim 24, wherein the network interface is configured to transmit a converted media signal having the converted media information to at least one of the second media consumption device and a metering device associated with the second media consumption device, and wherein the converted media information includes at least one of converted media content and converted metadata associated with the converted media content.
- 39. An apparatus as defined in claim 24, wherein the network interface is configured to receive the media signal from the first media consumption device.
- 40. An apparatus as defined in claim 24, wherein the extracting device comprises a demultiplexer.
- 41. An apparatus as defined in claim 24 further comprising a memory to store the media signal.

- 42. An apparatus as defined in claim 24, wherein the metadata comprises at least one of content identification information, source identification information, destination device identification information, distribution channel identification information, timestamps associated with at least one of creation and generation of media content, and information associated with the media signal.
- 43. An apparatus as defined in claim 42, wherein the information associated with the media signal comprises at least one of frequency information, format information, signal strength information, bit rate information, frame rate information, and sampling frequency information.
- 44. An apparatus as defined in claim 24, wherein at least one of the first media consumption device and the second media consumption device is one of a television, a radio, a personal computer, a personal digital assistant, a telephone, a digital video disk player, and a personal video recorder.
- 45. An apparatus as defined in claim 24, wherein the network comprises at least one of a wired network and a wireless network.
- 46. An apparatus as defined in claim 24, wherein network comprises at least one of a server, a database, and a data collection measurement device.
- 47. An apparatus as defined in claim 24 integrated with at least one of a set top box, the first media consumption device, the second media consumption device, and a

metering device associated with at least one of the first media consumption device and the second media consumption device.

- 48. An apparatus as defined in claim 24, wherein the network comprises a home network.
- 49. An apparatus as defined in claim 24, further comprising a metering device configured to monitor media consumption based on the converted media information.
- 50. A machine accessible medium having instructions stored thereon that when executed, cause a machine to:

extract metadata from a media signal to form extracted metadata; and convert the extracted metadata from a first media format associated with a first media consumption device to a second media format associated with a second media consumption device to form converted media information, wherein the first media consumption device and the second media consumption device are configurable to be communicatively coupled to a network.

51. A machine accessible medium as defined in claim 50, wherein the instructions, when executed, cause the machine to convert media content associated with the media signal from a third media format to a fourth media format to form the converted media information.

- 52. A machine accessible medium as defined in claim 50, wherein the instructions, when executed, cause the machine to identify at least one of the first media format and the second media format prior to converting the extracted metadata.
- 53. A machine accessible medium as defined in claim 52, wherein the instructions, when executed, cause the machine to identify the at least one of the second media format by identifying a media format detectable by a metering device associated with the second media consumption device.
- 54. A machine accessible medium as defined in claim 53, wherein the instructions, when executed, cause the machine to identify the media format detectable by the metering device by identifying at least one of an audio watermark sensor, a video watermark sensor, a digital bitstream sensor, a database sensor, and a software sensor associated the metering device.
- 55. A machine accessible medium as defined in claim 50, wherein the instructions, when executed, cause the machine to convert the extracted metadata from the first media format to the second media format to form the converted media information by:

detecting a watermark associated with the media signal; identifying a signal compression ratio associated with the watermark; and modifying the signal compression ratio based on the second media format.

56. A machine accessible medium as defined in claim 55, wherein the instructions, when executed, cause the machine to modify the signal compression ratio



based on the second media format by comparing an output bit rate associated with the signal compression ratio to a network bit rate associated with the network.

- 57. A machine accessible medium as defined in claim 55, wherein the instructions, when executed, cause the machine to modify the signal compression ratio based on the second media format by changing an output bit rate based on a network bit rate associated with the network.
- 58. A machine accessible medium as defined in claim 50, wherein the instructions, when executed, cause the machine to convert the extracted metadata from the first media format to the second media format to form the converted media information by:

generating a watermark based on the second media format; and inserting the watermark in the converted media information.

- 59. A machine accessible medium as defined in claim 58, wherein the instructions, when executed, cause the machine to provide correlation information associated with the watermark and the converted media information to at least one of a data measurement collection device and a data collection facility.
- 60. A machine accessible medium as defined in claim 50, wherein the instructions, when executed, cause the machine to convert the extracted metadata from the first media format to the second media format to form the converted media information by:

encoding the metadata in the second media format; and

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WO 2004/061699 digitally inserting encoded metadata into a bitstream associated with the converted media information.

- A machine accessible medium as defined in claim 50, wherein the 61. instructions, when executed, cause the machine to convert the extracted metadata from the first media format to the second media format to form the converted media information by converting the extracted metadata to cause converted media content to be stored in a database.
- A machine accessible medium as defined in claim 50, wherein the 62. instructions, when executed, cause the machine to convert the extracted metadata from the first media format to the second media format to form the converted media information by converting the extracted metadata to cause converted metadata to be extracted from the second media consumption device based on an application program interface associated with the second media consumption device.
- A machine accessible medium as defined in claim 50, wherein the 63. instructions, when executed, cause the machine to extract the metadata from the media signal by demultiplexing the media signal.
- 64. A machine accessible medium as defined in claim 50, wherein the instructions, when executed, cause the machine to generate a converted media signal having the converted media information, and wherein the converted media information includes at least one of converted media content and converted metadata associated with the converted media content.

- 65. A machine accessible medium as defined in claim 50, wherein the instructions, when executed, cause the machine to transmit a converted media signal having the converted media information to at least one of the second media consumption device and a metering device associated with the second media consumption device, and wherein the converted media information includes at least one of converted media content and converted metadata associated with the converted media content.
- 66. A machine accessible medium as defined in claim 50, wherein the instructions, when executed, cause the machine to monitor media consumption based on the converted media information.
- 67. A machine accessible medium as defined in claim 50, wherein the metadata comprises at least one of content identification information, source identification information, destination device identification information, distribution channel identification information, timestamps associated with at least one of creation and generation of media content, and information associated with the media signal.
- 68. A machine accessible medium as defined in claim 67, wherein the information associated with the media signal comprises at least one of frequency information, format information, signal strength information, bit rate information, frame rate information, and sampling frequency information.
- 69. A machine accessible medium as defined in claim 50, wherein at least one of the first media consumption device and the second media consumption device is one of



a television, a radio, a personal computer, a personal digital assistant, a telephone, a digital video disk player, and a personal video recorder.

- 70. A machine accessible medium as defined in claim 50, wherein the network comprises at least one of a wired network and a wireless network.
- 71. A machine accessible medium as defined in claim 50, wherein the network comprises at least one of a server, a database, and a data measurement collection device.
- 72. A machine accessible medium as defined in claim 50, wherein the network comprises a home network.
 - 73. A system for transcoding a media signal comprising:
 - a first media consumption device;
- a second media consumption device communicatively coupled to the first media consumption device;

a metering device communicatively coupled to at least one of the first media consumption device and the second media consumption device; and

a transcoding device communicatively coupled to at least one of the first media consumption device, the second media consumption device, and the metering device, and configured to extract metadata from the media signal to form extracted metadata and convert the extracted metadata from a first media format associated with the first media consumption device to a second media format associated with the second media consumption device to form converted media information.

- 74. A system as defined in claim 73, wherein the transcoding device is configured to convert media content associated with the media signal from a third media format to a fourth media format to form the converted media information.
- 75. A system as defined in claim 73, wherein the transcoding device is configured to identify at least one of the first media format and the second media format prior to converting the extracted metadata.
- 76. A system as defined in claim 75, wherein the transcoding device is configured to identify a media format detectable by a metering device associated with the second media consumption device.
- 77. A system as defined in claim 76, wherein the transcoding device is configured to configured to identify at least one of an audio watermark sensor, a video watermark sensor, a digital bitstream sensor, a database sensor, and a software sensor associated with the metering device.
- 78. A system as defined in claim 73, wherein the transcoding device is configured to detect a watermark associated with the media signal, to identify a signal compression ratio associated with the watermark, and to modify the signal compression ratio based on the second media format.

- **WO 2004/061699** A system as defined in claim 78, wherein the transcoding device is configured to compare an output bit rate associated with the signal compression ratio to a system bit rate of the system and adjust the output bit rate based on the system bit rate.
 - A system as defined in claim 78, wherein the transcoding device is 80. configured to change an output bit rate based on a network bit rate associated with the network.
 - 81. A system as defined in claim 73, wherein the transcoding device is configured to generate a watermark based on the second media format and insert the watermark in the converted media information.
 - 82. A system as defined in claim 81, wherein the transcoding device is configured to provide correlation information associated with the watermark and the converted media information to at least one of a data measurement collection device and a data collection facility.
 - A system as defined in claim 73, wherein the transcoding device is 83. configured to encode the extracted metadata in the second media format and digitally insert encoded metadata into a bitstream associated with the converted media information.
 - A system as defined in claim 73, wherein the converted media information 84. causes converted media content to be stored in a database.

- A system as defined in claim 73, wherein the converted media information causes converted metadata to be extracted from the second media consumption device based on an application program interface associated with the second media consumption device.
 - 86. A system as defined in claim 73, wherein at least one of the first media consumption device and the metering device is configured to extract the metadata from the media signal.
 - A system as defined in claim 73, wherein the transcoding device is 87. configured to generate a converted media signal having the converted media information, and wherein the converted media information includes at least one of converted media content and converted metadata associated with the converted media content.
 - A system as defined in claim 73, wherein the transcoding device is 88. configured to transmit a converted media signal having the converted media information to at least one of the second media consumption device and the metering device, and wherein the converted media information includes at least one of converted media content and converted metadata associated with the converted media content.
 - A system as defined in claim 73, wherein the metering device is 89. configured to monitor media consumption based on the converted media information.
 - A system as defined in claim 73, wherein the metadata comprises at least 90. one of content identification information, source identification information, destination



AEPLACEDIANNO 2004/061699 device identification information, distribution channel identification information. timestamps associated with at least one of creation and generation of media content, and information associated with the media signal.

- 91. A system as defined in claim 90, wherein the information associated with the media signal comprises at least one of frequency information, format information, signal strength information, bit rate information, frame rate information, and sampling frequency information.
- 92. A system as defined in claim 73, wherein the transcoding device is coupled to at least one of the first media consumption device, the second media consumption device, and the metering device via at least one of a wired network and a wireless network.
- 93. A system as defined in claim 73, wherein at least one of the first media consumption device and the second media consumption device is one of a television, a radio, a personal computer, a personal digital assistant, a telephone, a digital video disk player, and a personal video recorder.
- 94. A system as defined in claim 73, wherein the transcoding device is integrated with at least one of the first media consumption device, the second media consumption device, and the metering device.

- WO 2004/061699 A system as defined in claim 73, wherein the metering device is integrated with at least one of the first media consumption device and the second media consumption device.
 - 96. A system as defined in claim 73 further comprising a server, a database, and a data measurement collection device.
 - A system as defined in claim 73 integrated with a home network. 97.
 - 98. An apparatus for transcoding a media signal comprising: means for extracting metadata from the media signal to form the extracted metadata; and

means for converting the extracted metadata from a first media format associated with a first media consumption device to a second media format associated with a second media consumption device to form converted media information, wherein the first media consumption device and the second media consumption device are configurable to be communicatively coupled to a network.

- An apparatus as defined in claim 98, wherein the means for converting is 99. configured to convert media content associated with the media signal from a third media format to a fourth media format to form the converted media information.
- An apparatus as defined in claim 98, wherein the means for converting 100. comprises means for identifying at least one of the first media format and the second media format prior to converting the extracted metadata.

- 101. An apparatus as defined in claim 100, wherein the means for identifying is configured to identify a media format detectable by a metering device associated with the second media consumption device.
- 102. An apparatus as defined in claim 101, wherein the means for identifying is configured to identify at least one of an audio watermark sensor, a video watermark sensor, a digital bitstream sensor, a database sensor, and a software sensor associated with the metering device.
- 103. An apparatus as defined in claim 98, wherein the means for converting comprises:

means for detecting a watermark associated with the media signal;

means for identifying a signal compression ratio associated with the watermark;

:and

means for modifying the signal compression ratio based on the second media format.

- 104. An apparatus as defined in claim 103, wherein the means for modifying is configured to compare an output bit rate associated with the signal compression ratio to a network bit rate associated with the network.
- 105. An apparatus as defined in claim 103, wherein the means for modifying is configured to change an output bit rate based on a network bit rate associated with the network.

106. An apparatus as defined in claim 98, wherein the means for converting comprises:

means for generating a watermark based on the second media format; and means for inserting the watermark in the converted media information.

- 107. An apparatus as defined in claim 106 further comprising means for providing correlation information associated with the watermark and the converted media information to at least one of a data measurement collection device and a data collection facility.
- 108. An apparatus as defined in claim 98, wherein the means for converting comprises:

means for encoding the metadata in the second media format; and
means for digitally inserting encoded metadata into a bitstream associated with the
converted media information.

- 109. An apparatus as defined in claim 98, wherein the means for converting is configured to convert the metadata to cause converted media content to be stored in a database.
- 110. An apparatus as defined in claim 98, wherein the means for converting is configured to convert the metadata to cause converted metadata to be extracted from the second media consumption device based on an application program interface associated with the second media consumption device.

- 111. An apparatus as defined in claim 98 further comprising means for generating a converted media signal having the converted media information, wherein the converted media information includes at least one of converted media content and converted metadata associated with the converted media content.
- 112. An apparatus as defined in claim 98 further comprising means for transmitting a converted media signal having the converted media information to at least one of the second media consumption device and a metering device associated with the second consumption media device, wherein the converted media information includes at least one converted media content and converted metadata associated with the converted media content.